

### **REMARKS**

Claims 1-3, 5, and 7-13 are pending. Claim 13 is amended. Claims 4 and 6 are canceled.

#### **Support for the Amendments**

Claim 13 now recites 0.5% liquid soap. Support for the amendment is found, for example, at page 13, first full paragraph. Amendment of any claim herein is not to be construed as acquiescence to any of the rejections/objections set forth in the Office Action, and was done to expedite prosecution of the application. Applicants make these amendments without prejudice to pursuing the original subject matter of this application in a later filed application claiming benefit of the instant application, including without prejudice to any determination of equivalents of the claimed subject matter. Support for these amendments appears throughout the specification and claims as filed. No new matter is introduced by these amendments.

#### **Rejections under 35 U.S.C. § 112, first paragraph**

Claims 1-3 and 5-13, which are directed to methods for controlling spider mites and powdery mildew by applying an emulsion comprising an emulsifier, soap, and hop beta acids, are rejected for allegedly lacking an adequate written description. As an initial matter, Applicants note that claim 6, which recited an emulsion comprising an emulsifier and liquid soap, is canceled. In support of the rejection the Examiner alleges that the term "soap" is unclear because Applicants fail to provide an explanation of what constitutes liquid soap. In addition, the Examiner asserts that the term "emulsifier" could encompass liquid soap, citing Locke (column 6, lines 14-17) in support of this assertion.

One or more surfactants may typically be used in preparing the insecticide formulations. Non-ionic surfactants will generally be preferred. Examples include, but are not limited to, Triton B-1956, Twee-20, sodium dodecylsulfide and the like. For certain applications, anionic surfactants (such as Ivory ® liquid soap or the like) may be preferred. Where aqueous diluents or ingredients are used, an emulsifying surfactant should be used.

Locke supports the concept that liquid soap is one example of a surfactant. More specifically, Locke describes soap as an anionic surfactant. Although anionic surfactants may be one class of emulsifier, the term emulsifier applies to any liquid that stabilizes an emulsion.

Applicants describe the preparation of an aqueous emulsion of beta acids using an emulsifier at page 5, under the heading “Preparation of a 10% Emulsion of Beta Fraction (Beta Acid Oil) for Pest Control.” Applicants teach that “the beta acid fraction was heated to 60°C, and added to a volume of 60°C water, to which an emulsifier, such as Nino FM Tri-Emulsifier, was added . . . The mixture was then emulsified in a high-shear mixer to produce a stable emulsion.” Applicants teach that the emulsion remained stable at all dilutions. Although inclusion of an emulsifier was sufficient to stabilize the beta acid emulsion, the emulsion clogged sprayers when applied to crops in the field. To overcome this problem, liquid soap was added to the emulsion (page 13, lines 5 and 6). Applicants found that inclusion of liquid soap in the emulsion prevented the sprayers from clogging.

Applicants have plainly described the claimed invention. Specifically, Applicants have described an emulsion comprising beta acids, an emulsifier, and soap. Although soap may in some contexts act as an emulsifier, Applicants’ claims clearly recite an emulsifier and soap. One of skill in the art provided with Applicants’ specification would recognize that Applicants had invented what is claimed *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Moreover, Applicants description of an actual reduction to practice of the claimed methods leaves no doubt as to the fact that Applicants were in possession of the claimed subject matter at the time the application was filed. *In re Smith*, 481 F.2d 910, (CCPA 1973). This is all that is required to satisfy the written description requirement. Accordingly, this basis for the rejection of claims 1-3 and 5-13 should be withdrawn.

**Rejections under 35 U.S.C. § 112, second paragraph**

Claim 13 is rejected as allegedly indefinite for reciting the phrase “soap is present.” The Examiner asserts that it unclear where and when the emulsion, beta acids, and soap are applied. Applicants respectfully disagree with the rejection and request that it be withdrawn. However, without acquiescing in any way to the rejection, Applicant’s claims now recite an emulsion comprising an emulsifier, at least 1.0% hop beta acids, and 0.5% liquid soap. Accordingly, this basis for the rejection should also be withdrawn.

**Rejections under 35 U.S.C. § 103(a)**

Claims 1-3 and 5-13, which are directed to methods of controlling spider mites or powdery mildew by applying an emulsion to an agricultural crop, are rejected under 35 U.S.C. 103(a) as allegedly obvious over Jones et al. (Pestic. Sci. 47:165-169, 1996; hereinafter “Jones”) in view of Locke, or Souter et al., (U.S. Patent Publication No. 2003/0060379; hereinafter “Souter”). Applicants respectfully disagree and traverse the rejection.

*Jones*

It is asserted in the Action that Jones “shows B acids are antifungal and acaricidal...”. Applicants disagree. Jones cites two Japanese patents, Kataoka Japanese Patent 01633, 1976 (Chem. Abs. 84 (1976) 175144) (hereinafter “the ‘1633 patent”) and Ando Japanese Patent 125,738 1976 (Chem. Abs. 87 (1977) 5499a) (hereinafter “the 5738 patent”), in support of his statement that beta acids have acaricidal and fungicidal activity (Jones, page 165, first paragraph). However, Jones reliance on these references is erroneous and misplaced. A review of the cited documents indicates that neither relates to hop beta acids.

The ‘1633 patent, entitled “Beta triones as fungicides,” relates to the use of **beta triones** to treat **rice blight**. The beta triones are not hops beta acids, thus the ‘1633 patent fails to describe hop beta acids, and furthermore fails to describe the use of hops beta acids to treat powdery mildew.

The ‘5738 patent, entitled “Insecticidal and acaricidal cyclohexenes,” relates to the use of cyclohexenes to control mites and insects. The cyclohexenes are not hops beta acids, thus the ‘5738 patent fails to describe hop beta acids, and therefore it also fails to provide support for Jones statement that hop beta acids have acaricidal activity.

In fact, none of the art cited by the Examiner teaches or suggests that hop beta acids can be used to treat powdery mildew. Accordingly, the obviousness rejection of claims 2, 8, and 9, which are directed to methods of using beta acids to control powdery mildew should be withdrawn.

More importantly however, the Examiner acknowledges that Jones fails to describe soap, nor are emulsions mentioned or contemplated. To remedy the deficiencies of Jones, the Examiner cites Locke, or Souter. However, for reasons delineated below, Locke and Souter both

fail to remedy the deficiency of Jones. Locke fails to describe hop beta acids, nor provide any rationale why with a reasonable expectation of success, one would be motivated to extrapolate the Locke subject matter relating to neem oil to Applicants' claimed subject matter, i.e. hop beta acid formulations. Souter is not available as prior art to the instant application.

*Locke*

Locke describes insecticidal compositions comprising neem oil and soap. Locke states that neem oil "can be applied as a soap . . . to repel insects and protect skin or wool from insect and fungal attack (column 4, line 67, to column 5, line 2)." Locke fails to mention hop beta acids. Therefore, Locke fails to teach or suggest applying an emulsion comprising 1.0% hop beta acids and soap to crops, where the soap is present in an amount sufficient to reduce film formation.

*Souter*

The Examiner maintains his rejection of the claims over Souter. As noted in the response to Office action filed October 30, 2008, the rejection over this reference should be withdrawn because Souter is not available as prior art. Souter, which was filed on November 6, 2002, is a continuation of PCT/US01/17243, which was filed on May 24, 2001. Applicant's earliest priority date is May 17, 2000. Thus, Souter is not available as prior art.

To establish a *prima facie* case of obviousness, the Examiner must first show that there is a suggestion or motivation to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. M.P.E.P. 2143. In the absence of a showing that the references expressly or impliedly suggest all of the claim limitations the rejection under § 103 is improper and must be withdrawn. M.P.E.P. 2142.

One could not combine the neem oil soap described by Locke as useful in repelling insects from skin and wool with the solutions described by Jones to arrive at Applicants' claimed method of applying an emulsion comprising hop beta acids and soap in an amount sufficient to reduce film formation. The aforementioned motivation to combine the references as well as the requisite reasonable expectation of success are both absent here. The cited references fail to teach or suggest all of the claim limitations. Thus, Applicants submit that a *prima facie* case is not established based on Jones in view of Locke. None of the cited references, alone or in any

combination is sufficient to support the rejection of the claims under 35 U.S.C. § 103. Thus, withdrawal of the rejection is respectfully requested.

**Double-patenting rejection**

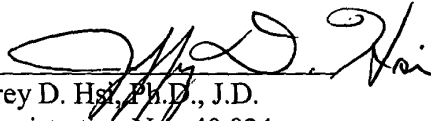
Claims 1 and 2 are rejected under the judicially created doctrine of double patenting over claims 3, 10, 14, 15, 17, and 18 of copending Application No. 11/008,781. Applicants respectfully traverse the rejection. Applicants request withdrawal of the provisional obviousness-type double patenting rejection upon a finding that the claims are in condition for allowance.

**CONCLUSION**

In view of the above amendment, Applicants believe the pending application is in condition for allowance. Should any of the claims not be found to be allowable, the Examiner is requested to telephone Applicants' undersigned representative at the number below. Applicants thank the Examiner in advance for this courtesy. The Director is hereby authorized to charge or credit any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105, under Order No. 61842CIP(51035).

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Respectfully submitted,

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